

ABSTRACT

A method and a device for converting energy
uses chemical reactions in close proximity to or on a surface to
5 convert a substantial fraction of the available chemical energy
of the shorter lived energized products, such as vibrationally
excited chemicals and hot electrons,
directly into a useful form, such as longer lived charge
carriers in a semiconductor. The carriers store the excitation
10 energy in a form that may be converted
into other useful forms, such as electricity, nearly
monochromatic electromagnetic radiation or carriers for
stimulating other surface reactions.